



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,292	11/21/2005	Klaus Peter Stengele	STOLMAR-0002	4653
23599 7590 02/25/2009 MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201				
EXAMINER				
RILEY, JEZIA				
ART UNIT		PAPER NUMBER		
1637				
MAIL DATE		DELIVERY MODE		
02/25/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/531,292

**Applicant(s)**

STENGELE ET AL.

**Examiner**

Jezia Riley

**Art Unit**

1637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-8 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SE/US)  
Paper No(s)/Mail Date 4/14/05, 11/21/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of species anthracene in the reply filed on 11/3/08 is acknowledged. The traversal is on the ground(s) that there is no burden to examine beyond a single labeling species. This is found persuasive and therefore the restriction requirement has been canceled.

### ***Specification***

This application contains sequence disclosures that are encompassed by the definitions for nucleotide sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 CFR 1.821 through 1.825: Page 12 of the specification recites Nucleic acid sequences without citing "SEQ ID NO:". Appropriate correction is required.

### ***Claim Objections***

Claim 2 is objected to because of the following informalities: claim 2 comprises 2 sentences, which is improper. Each claim should begin with a capital letter and ends with a period. Periods may not be used elsewhere in the claims except for abbreviations. Appropriate correction is required. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-4, 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Chiarello (US 7,183,405).

Chiarello disclosed a method of labeling oligonucleotides, comprising: a) providing: i) a solid support-bound oligonucleotide comprising an amino group, ii) a bifunctional linker arm and iii) an activated label; b) reacting said solid support-bound oligonucleotide with said bifunctional linker arm to produce a support-bound, protected linker-oligonucleotide; c) deprotecting the amino group of said support-bound, protected linker-oligonucleotide to produce a support-bound deprotected linker-oligonucleotide, and; d) reacting said support-bound deprotected linker-oligonucleotide with said activated label to produce a labeled support-bound protected oligonucleotide. (

See claims). Tables 1-3 show labels which are viewed to be inclusive of instant claim 2. Figures 4-5, show the use of amino or hydroxyl labels which are viewed to be inclusive of instant claims 3 and 4.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 5, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiarello (US 7,183,405) in view of Beier et al. (DE19915867 A1) in further view of Urdea et al. (US 5,703,218).

Chiarello disclosed a method of labeling oligonucleotides, comprising: a) providing: i) a solid support-bound oligonucleotide comprising an amino group, ii) a

bifunctional linker arm and iii) an activated label; b) reacting said solid support-bound oligonucleotide with said bifunctional linker arm to produce a support-bound, protected linker-oligonucleotide; c) deprotecting the amino group of said support-bound, protected linker-oligonucleotide to produce a support-bound deprotected linker-oligonucleotide, and; d) reacting said support-bound deprotected linker-oligonucleotide with said activated label to produce a labeled support-bound protected oligonucleotide. (See claims). Tables 1-3 show labels which are viewed to be inclusive of instant claim 2. Figures 4-5, show the use of amino or hydroxyl labels which are viewed to be inclusive of instant claims 3 and 4.

Beier et al. discloses oligonucleotide synthesis comprising a photolabile protective group. said protective group is carbonate ester (Figures). The oligonucleotide is attached to a solid support via the 5'-O-position.

Therefore it would have been obvious at the time the invention was made to manufacture an oligonucleotide conjugate as taught by Chiarello, where in the oligonucleotide conjugate is bound to the a solid support a the 5'-end and having a carbonate protective group. It is well in the art to attach the oligonucleotide on the 5' or 3'-end. Also carbonate protective are particularly useful in the chemical synthesis of linear or branched oligonucleotide structure as they are readily removed with mild reagents. (Urdea abstract). Further it is well known in the art of organic chemistry to

control the removal of the protective group and therefore be partially removed by controlling the reaction conditions, reagents concentration, etc.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jezia Riley whose telephone number is 571-272-0786. The examiner can normally be reached on 9:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 571-272-0782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jezia Riley/  
Primary Examiner, Art Unit 1637

2/14/2009